



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,441	09/21/2001	Newell E. Chiesl	01-384	5776

24319 7590 06/25/2003

LSI LOGIC CORPORATION
1621 BARBER LANE
MS D-106, LEGAL DEPARTMENT
MILPITAS, CA 95035

EXAMINER

SIMKOVIC, VIKTOR

ART UNIT PAPER NUMBER

2812

DATE MAILED: 06/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/960,441

Applicant(s)

CHIESL, NEWELL E.

Examiner

Viktor Simkovic

Art Unit

2812

-- Th MAILING DATE of this communication appears on th cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-28 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17, 19, 20 and 22-28 is/are rejected.
- 7) ☒ Claim(s) 20 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 17 is objected to because of the following informalities: The phrase "converting a capacitance of said capacitor to pressure" makes no sense, as it implies generating a pressure on the wafer, which the examiner believes is not meant here. The examiner suggests changing the phrase to "converting a capacitance measurement of said capacitor to a pressure measurement". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-24 recite the limitation "'deactivating said arrangement via said switch" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smesny et al. in view of Fisher. Smesny et al. teach a method of fabricating a semiconductor wafer, comprising :

subjecting said semiconductor wafer to a pressure;

measuring said pressure with a pressure measurement device supported on said wafer, said pressure measurement device including a pressure transducer, a signal conditioning circuit located on the wafer.

See abstract as well as column 9, lines 27-37. What Smesny et al. fail to specifically teach is the use of a capacitive pressure sensor. This is taught by Fisher in column 3, lines 21-27, where Fisher specifically mentions "capacitive MEMS pressure sensors". Furthermore, the examiner maintains that the phrase "capacitance to pressure conversion circuitry" entails nothing more than some kind of signal processing circuitry, which is taught by Smesny et al. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a capacitive pressure sensor with the method of Smesny et al., since this type of sensor is well suited to be incorporated onto a substrate, as Fisher suggests. With regard to claims 19-20, Smesny et al. teach storing the measured data in storage circuitry located on the substrate as well sending the data to a receiver with transmitter circuitry coupled to said signal processing circuitry (see abstract).

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sparks. Sparks teaches a method of forming a semiconductor wafer comprising the steps:

forming a capacitor on the semiconductor wafer by fabricating first and second metal plates on the wafer separated by a void (Fig. 4).

Sparks does not specifically include the steps of subjecting the wafer to pressure and measuring said pressure using the capacitor, but this is in fact the method of using the

pressure sensor taught by Sparks. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the pressure sensor in this way. Regarding claim 28, Sparks also teaches a protective layer.

Claim 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smesny et al. in view of Fisher as applied to claim 17 above, and further in view of Sparks as applied to claim 27. See comments made above for claims 27-28.

Allowable Subject Matter

Claims 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: Prior art of record fails to teach the method of forming a capacitor on a wafer along with signal processing circuitry such that current time circuitry is included on the wafer and the pressure measured is associated with the current time.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viktor Simkovic whose telephone number is 703-308-6170. The examiner can normally be reached on Mon - Fri, 9:00 - 6:00, except every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on 703-308-3325. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.



Viktor Simkovic
June 22, 2003

John F. Niebling
Supervisory Patent Examiner
Technology Center 2800